

IN THE CLAIMS

1. (Currently Amended) A method of embedding a digital watermark in digital audio data coded using a synthesiser-architecture format, said method including the steps of:

~~embedding at least a portion of said a~~ digital watermark in sample data of said digital audio data coded using a synthesiser - architecture format, and

embedding a digital watermark in articulation parameters of said digital audio data coded using a synthesiser - architecture format;

wherein said embedded digital watermarks in said sample data and said articulation parameters respectively are chosen to enable verification of said watermarks by comparing said watermarks to determine if said watermark from said sample data is not available or has been modified ~~articulation parameters of said synthesiser-architecture format, and~~

~~hiding a watermarked coded bit sequence in said articulation parameters.~~

2. (Original) The method according to claim 1, further including the step of adaptively coding said digital watermark in said sample data.

3. (Previously Presented) The method according to claim 2, wherein adaptively coding said digital watermark in said sample data comprises using redundancy adaptive coding based on a finite automaton.

4. (Original) The method according to claim 1, further including the step of hiding said digital watermark in said articulation parameters by creating virtual parameters.

5. (Original) The method according to claim 4, further including the step of embedding said digital watermark in said virtual parameters.

6. (Currently Amended) The method according to claim 4, further including the step of extracting one or more coded bits from watermarked sample data, said virtual parameters created dependent upon ~~said a~~ watermarked coded bit sequence.

7. (Cancelled)

8. (Previously Presented) The method according to claim 6, further including the step of embedding said watermarked coded bit sequence in said virtual parameters.

9. (Previously Presented) The method according to claim 1, further including the step of encrypting said digital watermarked coded bit sequence.

10. (Previously Presented) The method according to claim 4, further including the step of encrypting said digital watermark.

11. (Previously Presented) The method according to claim 1, further including the step of generating said digital watermark.

12. (Previously Presented) The method according to claim 1, further including the

step of dividing said digital audio data coded using a synthesiser-architecture format into said sample data and said articulation parameters.

13. (Previously Presented) The method according to claim 1, further including the step of embedding a playback-control signal.

14. (Previously Presented) The method according to claim 1, wherein said digital audio data coded using a synthesiser-architecture format is wavetable (WT) audio.

15. (Currently Amended) An apparatus for embedding a digital watermark in digital audio data coded using a synthesiser-architecture format, said apparatus including:

means for embedding ~~at least a portion of said a~~ digital watermark in sample data of said digital audio data coded using a synthesiser - architecture format, and

means for embedding a digital watermark in articulation parameters of said digital audio data coded using a synthesiser - architecture format;

wherein said embedded digital watermarks in said sample data and said articulation parameters respectively are chosen to enable verification of said watermarks by comparing said watermarks to determine if said watermark from said sample data is not available or has been modified ~~said synthesiser-architecture format;~~

~~means for embedding at least a portion of said digital watermark in articulation parameters of said synthesiser-architecture format; and~~

~~means for hiding a watermarked coded bit sequence in said articulation parameters.~~

16. (Original) The apparatus according to claim 15, further including means for adaptively coding said digital watermark in said sample data.
17. (Previously Presented) The apparatus according to claim 16, wherein said means for adaptively coding said digital watermark in said sample data uses redundancy adaptive coding based on a finite automaton.
18. (Original) The apparatus according to claim 15, further including means for hiding said digital watermark in said articulation parameters by creating virtual parameters.
19. (Original) The apparatus according to claim 18, further including means for embedding said digital watermark in said virtual parameters.
20. (Currently Amended) The apparatus according to claim 18, further including means for extracting one or more coded bits from watermarked sample data, said virtual parameters created dependent upon a ~~said~~ watermarked coded bit sequence.
21. (Cancelled)
22. (Previously Presented) The apparatus according to claim 20, further including means for embedding said watermarked coded bit sequence in said virtual parameters.

23. (Previously Presented) The apparatus according to claim 15, further including means for encrypting said digital watermarked coded bit sequence.

24. (Previously Presented) The apparatus according to claim 18, further including means for encrypting said digital watermark.

25. (Previously Presented) The apparatus according to claim 15, further including means for generating said digital watermark.

26. (Previously Presented) The apparatus according to claim 15, further including means for dividing said digital audio data coded using a synthesiser-architecture format into said sample data and said articulation parameters.

27. (Previously Presented) The apparatus according to claim 15, further including means for embedding a playback-control signal.

28. (Previously Presented) The apparatus according to claim 15, wherein said digital audio data coded using a synthesiser-architecture format is wavetable (WT) audio.

29. (Currently Amended) A computer program product having a computer readable medium having a computer program recorded therein for embedding a digital watermark in digital audio data coded using a synthesiser-architecture format, said computer program product including:

~~means for embedding a at least a portion of said digital watermark in sample data of~~
~~said digital audio data coded using a synthesiser - architecture format said synthesiser-~~
~~architecture format; and~~

~~means for embedding at least a portion of said digital watermark in articulation~~
~~parameters of said synthesiser-architecture format; and~~

~~means for hiding a watermarked coded bit sequence in said articulation parameters~~

means for embedding a digital watermark in articulation parameters of said digital
audio data coded using a synthesiser - architecture format;

wherein said embedded digital watermarks in said sample data and said articulation
parameters respectively are chosen to enable verification of said watermarks by comparing
said watermarks to determine if said watermark from said sample data is not available or has
been modified.

30 (Original) The computer program product according to claim 29, further
including means for adaptive coding said digital watermark in said sample data.

31. (Previously Presented) The computer program product according to claim 30,
wherein said means for adaptive coding said digital watermark in said sample data uses
redundancy adaptive coding based on a finite automaton.

32. (Original) The computer program product according to claim 29, further
including means for hiding said digital watermark in said articulation parameters by creating
virtual parameters.

33. (Original) The computer program product according to claim 32, further including means for embedding said digital watermark in said virtual parameters.

34. (Currently Amended) The computer program product according to claim 32, further including means for extracting one or more coded bits from watermarked sample data, said virtual parameters created dependent upon a ~~said~~ watermarked coded bit sequence.

35. (Cancelled)

36. (Previously Presented) The computer program product according to claim 34, further including means for embedding said watermarked coded bit sequence in said virtual parameters.

37. (Currently Amended) The computer program product according to claim 34 ~~29~~, further including means for encrypting said digital watermarked coded bit sequence.

38. (Previously Presented) The computer program product according to claim 32, further including means for encrypting said digital watermark.

39. (Previously Presented) The computer program product according to claim 29, further including means for generating said digital watermark.

40. (Previously Presented) The computer program product according to claim 29, further including means for dividing said digital audio data coded using a synthesiser-architecture format into said sample data and said articulation parameters.

41. (Previously Presented) The computer program product according to claim 29, further including means for embedding a playback-control signal.

42. (Previously Presented) The computer program product according to claim 29, wherein said digital audio data coded using a synthesiser-architecture format is wavetable (WT) audio.

43. (Previously Presented) A method of extracting a digital watermark from watermarked digital audio data coded using a synthesiser-architecture format, said method including the steps of:

detecting a watermark from articulation parameters of said watermarked digital audio data coded using a synthesiser-architecture format;

detecting a watermark from sample data of said watermarked digital audio data coded using a synthesiser-architecture format;

verifying said watermark by comparing said detected watermarks; and

replacing the watermark from said sample data with a corresponding watermark embedded in said articulation parameters if said watermark from said sample data is not available or has been modified.

44. (Cancelled)

45. (Previously Presented) The method according to claim 43, wherein said watermark from sample data includes an adaptively coded bit sequence.

46. (Original) The method according to claim 45, further including the step of decrypting said adaptively coded bit sequence.

47. (Previously Presented) The method according to claim 43, further including the step of decrypting said digital watermark.

48. (Previously Presented) The method according to claim 43, further including the step of dividing said watermarked digital audio data coded using a synthesiser-architecture format into said sample data and said articulation parameters.

49. (Previously Presented) The method according to claim 43, further including the step of extracting a playback-control signal.

50. (Previously Presented) The method according to claim 43, wherein said digital audio data coded using a synthesiser-architecture is wavetable (WT) audio.

51. (Previously Presented) An apparatus for extracting a digital watermark from

watermarked digital audio data coded using a synthesiser-architecture format, said apparatus including:

means for detecting a watermark from articulation parameters of said watermarked digital audio data coded using a synthesiser-architecture format;

means for detecting a watermark from sample data of said watermarked digital audio data coded using a synthesiser-architecture format;

means for verifying said watermark by comparing said detected watermarks; and

means for replacing the watermark from said sample data with a corresponding watermark embedded in said articulation parameters if said watermark from said sample data is not available or has been modified.

52. (Cancelled)

53. (Previously Presented) The apparatus according to claim 51, wherein said watermark from sample data includes an adaptively coded bit sequence.

54. (Original) The apparatus according to claim 53, further including means for decrypting said adaptively coded bit sequence.

55. (Previously Presented) The apparatus according to claim 51, further including means for decrypting said digital watermark.

56. (Previously Presented) The apparatus according to claim 51, further including means for dividing said watermarked digital audio data coded using a synthesiser-architecture format into said sample data and said articulation parameters.

57. (Previously Presented) The apparatus according to claim 51, further including means for extracting a playback-control signal.

58. (Previously Presented) The apparatus according to claim 51, wherein said digital audio data coded using a synthesiser-architecture format is wavetable (WT) audio.

59. (Previously Presented) A computer program product for extracting a digital watermark from watermarked digital audio data coded using a synthesiser-architecture format, said computer program product including:

means for detecting a watermark from articulation parameters of said watermarked digital audio data coded using a synthesiser-architecture format;

means for detecting a watermark from sample data of said watermarked digital audio data coded using a synthesiser-architecture format;

means for verifying said watermark by comparing said detected watermarks; and

means for replacing the watermark from said sample data with a corresponding watermark embedded in said articulation parameters if said watermark from said sample data is not available or has been modified.

60. (Cancelled)

61. (Previously Presented) The computer program product according to claim 59, wherein said watermark from sample data includes an adaptively coded bit sequence.

62. (Original) The computer program product according to claim 61, further including means for decrypting said adaptively coded bit sequence.

63. (Previously Presented) The computer program product according to claim 59, further including means for decrypting said digital watermark.

64. (Previously Presented) The computer program product according to claim 59, further including means for dividing said watermarked digital audio data coded using a synthesiser-architecture format into said sample data and said articulation parameters.

65. (Previously Presented) The computer program product according to claim 59, further including means for extracting a playback-control signal.

66. (Previously Presented) The computer program product according to claim 59, wherein said digital audio data coded using a synthesiser-architecture is wavetable (WT) audio.

67. (Previously Presented) A system for watermarking a wavetable (WT) audio file, said system including:

means for embedding watermark data into sample data and articulation parameters of a WT file, including hiding a watermarked coded bit sequence in said articulation parameters; and

means for extracting said watermark data from said embedded WT file.

68. (Cancelled)

69. (Previously Presented) The method according to claim 2, wherein the step of adaptively coding said digital watermark in said sample data comprises selecting the position in the sample data in which to embed the watermark.

70. (Previously Presented) The method according to claim 2, wherein the step of adaptively coding said digital watermark in said sample data is based only on the sample data and the digital watermark to be encoded.

71. (Previously Presented) The apparatus according to claim 16, wherein the means for adaptively coding said digital watermark in said sample data is operable to select the position in the sample data in which to embed the watermark.

72. (Previously Presented) The apparatus according to claim 16, wherein the means for adaptively coding said digital watermark in said sample data is operable to encode the digital watermark based only on the sample data and the digital watermark.

73. (Previously Presented) The computer program product according to claim 30, wherein the means for adaptive coding said digital watermark in said sample data is operable to select the position in the sample data in which to embed the watermark.

74. (Previously Presented) The computer program product according to claim 30, wherein the means for adaptive coding said digital watermark in said sample data is operable to encode the digital watermark based only on the sample data and the digital watermark.